

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CI0100PCT	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/003413	International filing date (<i>day/month/year</i>) 31.03.2004	Priority date (<i>day/month/year</i>) 08.04.2003
International Patent Classification (IPC) or national classification and IPC		
<p>Applicant CFS GERMANY GMBH</p>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 11 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. (*sent to the applicant and to the International Bureau*) a total of 6 sheets, as follows:

sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s))

_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

Box No. I Basis of the report

Box No. II Priority

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Box No. IV Lack of unity of invention

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Box No. VI Certain documents cited

Box No. VII Certain defects in the international application

Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- the international application as originally filed/furnished
 the description:

pages 2-11 as originally filed/furnished
 pages* 1, 1a received by this Authority on 01.02.2005 with letter of 27.01.2005
 pages* _____ received by this Authority on _____

- the claims:
 nos. _____ as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19
 nos.* 1-26 received by this Authority on 01.02.2005 with letter of 27.01.2005
 nos.* _____ received by this Authority on _____

- the drawings:
 sheets 1-10 as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____

- a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
- the claims, nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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PCT/EP2004/003413**Box No. IV Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:
 restricted the claims.
 paid additional fees.
 paid additional fees under protest.
 neither restricted the claims nor paid additional fees.
2. This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
 complied with.
 not complied with for the following reasons:

see supplemental sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
 all parts.
 the parts relating to claims Nos. _____

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1, 2, 4-6, 9, 11, 13-15, 17, 18-26</u>	YES
	Claims	<u>3, 7, 8, 10, 12, 16</u>	NO
Inventive step (IS)	Claims	<u>2</u>	YES
	Claims	<u>1, 3-26</u>	NO
Industrial applicability (IA)	Claims	<u>1-26</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

- D1: US-A-3 491 818 (SCHALLER HAROLD E) 27 January 1970
(1970-01-27)
- D2: DE 304 079 C (FRIEDRICH GRAF) 28 February 1918
(1918-02-28)
- D3: US-A-5 246 787 (SCHULZ HANS ET AL) 21 September 1993 (1993-09-21)
- D4: DE 31 39 871 A (BUSATIS WERKE KG) 21 April 1983
(1983-04-21)
- D5: DE 44 29 046 A (BIFORCE ANSTALT) 22 February 1996
(1996-02-22)
- D6: DE 23 06 822 A (KOHLHAAS PAUL DIPL ING) 15 August 1974 (1974-08-15)
- D7: US-B-6 386 4691 (MEISTER PETER ET AL) 14 May 2002
(2002-05-14)
- D8: DE 198 26 652 A (WILHELM BILSTEIN KG SPEZIALFAB) 5 August 1999 (1999-08-05)
- D9: US-A-4 258 593 (OINONEN HANNU) 31 March 1981
(1981-03-31)
- D10: US-A-5 093 151 (TABERSKY RALF ET AL) 3 March 1992
(1992-03-03)
- D11: US-B-6 427 5721 (CIANI TRISTANO ET AL) 6 August

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	2002 (2002-08-06).

1. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).

A knife head disk for a meat cutter according to the preamble of claim 1, that is to say, a knife head disk (17a-c) according to document D1 on which at least one knife (16a) having a core for receiving a drive shaft can be disposed, is considered the prior art closest to the subject matter of claim 1.

The subject matter of claim 1 therefore differs from this known knife head disk by virtue of the features of the characterizing part, that is to say, the core is surrounded by a casing in such a way that the core is connected to the casing by a force and/or form fit.

Consequently, the subject matter of claim 1 is novel (PCT Article 33(2)).

A casing which is such that the core is connected to the casing by a form fit can be a coating. Non-stick coatings (for example PTFE, known as Teflon®) are known in order to prevent the slices separated from the food products to be sliced from sticking to the knife during slicing (see document

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D5, column 3, lines 13-24). To prevent the slices separated from the food products to be sliced from sticking, a person skilled in the art would provide a disk according to the preamble of claim 1 with a coating according to document D5, without thereby being inventive.

2. The subject matter of claim 2 involves an inventive step because it is not obvious to a person skilled in the art to provide a knife head disk having a recess for an eccentric retaining bolt (see D7) with a casing. There is no evident reason why a person skilled in the art would provide a knife according to document D7 with a casing: although sealed-in or welded-on casings are known to increase wear resistance (see document D5, page 2, paragraph 2), this is the case with cutting knives and friction wear parts. The head disk disclosed in document D7 has a complex shape and it would not be obvious to a person skilled in the art to provide it with the above kind of casing (regarding document D7 see also the comments on claim 3). The effect of a casing is described on pages 1 and 2 of the description.

3. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 3 is not novel within the meaning of PCT Article 33(2).

Document D7 (see figures 1, 7 and 8) discloses a

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knife head disk [suitable] for an [undefined] meat cutter, on which at least one knife (3) can be disposed, WHEREIN the disk has at least one recess in which at least one eccentric retaining bolt (10) for the knife can be arranged. Claim 3 specifies that by means of the eccentric retaining bolt the knife can be arranged in at least two different positions on the knife head disk. However, neither the eccentric retaining bolt nor the knives are protected or defined in claim 3. Moreover, it would be possible to reverse the knives of document D7 and in this way to obtain a second, different position.

The subject matter of claim 3 is therefore not novel (PCT Article 33(2)).

4. Weights can be inserted into the recess for the retaining bolts and hence the subject matter of claims 7 and 8 is likewise not novel over document D7 (PCT Article 33(2)).

The additional fastening of knives in a tool mounting by means of magnets (claim 4) is obvious to a person skilled in the art in the light of document D1 combined with documents D5 and D8 or in the light of document D7 combined with D8.

The use of sealing rings with rotating tools is a design solution which is trivial for an engineer and hence the subject matter of claims 5 and 6 is not inventive.

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The shoulder according to claim 9 is obvious to a person skilled in the art (see document D7, figure 8).

The knives 7 of document D7 also have recesses, and hence the subject matter of claim 12 is likewise not novel.

Owing to the absence of a technical effect, the subject matter of claims 13 and 14 does not involve an inventive step, since all the features (with the exception of the filling plate) are known from document D7 and the function of the filling plate is not defined in the claim. The subject matter of claim 15 is also obvious to a person skilled in the art in the light of document D8.

For the same reasons the subject matter of claims 18-22 also does not involve an inventive step.

5. The methods according to claims 23-26 do not involve an inventive step because they describe only the routine methods for mounting a knife head according to document D7.

6. Claims 10 and 16:

Claims 10 and 16 do not disclose a specific knife geometry. It is not clear from the claims what exactly the "clamping radius" is, and hence this

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expression is open to interpretation. In addition, these claims concern only "knives", that is to say, not necessarily knife head disks according to independent claims 1 or 3.

Document D9 discloses a knife wherein the ratio of clamping radius (here interpreted as the radius of the "attachment opening") to knife radius can be 0.25 to 0.5 (see column 2, lines 1 and 2). The use of the knife of document D9 in a system is implied. Consequently, the subject matter of claims 10 and 16 is in part not novel (PCT Article 33(2)).

In the light of document D10, and even if the inside diameter is interpreted to read "clamping radius" (see column 6, lines 19-26), the subject matter of claims 10 and 16 is obvious to a person skilled in the art (see the relevant documents). The subject matter of claims 10 and 16 is also obvious to a person skilled in the art from document D1, if the measurements in the drawing are used as guideline values.

7. Claims 11 and 17

Claim 11 does not disclose a specific knife geometry. It is also not clear from the claim what is meant by "receiving breadth", and hence this expression is open to interpretation. In addition, claims 11 and 17 concern only "knives", that is to say, not necessarily knife head disks according to

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	claims 1 and 3.

The subject matter of claim 11 does not involve an inventive step with respect to document D9. A person skilled in the art using the measurements in the drawing of document D9 as guideline values and interpreting "receiving breadth" to mean the distance between the inside radius and the outside radius, would obtain a ratio of knife radius to receiving breadth of approximately 1.6. It would be obvious to a person skilled in the art to use this value as a starting point for manufacturing the tool of document D9. For the same reasons the subject matter of claim 17 also does not involve an inventive step (PCT Article 33(3)).

Moreover, a "receiving breadth" is not clearly defined for all tool geometries. A tool of the type disclosed in document D10 or D11, having a broad, circular surface, can be received in different ways and in that case the receiving breadth depends on the tool receiving the knife.

8. The subject matter of the claims is industrially applicable.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box IV.3

The application does not satisfy the unity of invention requirement (PCT Rule 13.2), for the following reasons:

- The features of the preamble, which are common to claims 1 (group 1) and 3 (group 1.1), are known per se in combination. The remaining features, that is to say, a core with a casing and a recess in which an eccentric retaining bolt can be mounted, wherein the knife can be disposed on the head disk by means of the eccentric retaining bolt in at least two different positions, have nothing in common and solve different problems: the casing prevents goods to be cut from becoming lodged between the disk and the knives, and the use of eccentric retaining bolts simplifies the mounting of the knives. There is therefore no technical relationship within the meaning of PCT Rule 1.32.

- Claims 10/16 (group 3) and 11/17 (group 4) do not concern a knife head disk but knives with a greater axial strength, and have nothing in common with claims 1 or 3. In addition, the solutions proposed in these two groups are different and hence constitute two groups of inventions.